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UNITED STATES DEPARTMENT OF AGRICULTURE
Bureau of Agricultural Economics

THE PURPOSE AND PREPARATION OF THE AGRICULTURAL OUTLOOK

By Lawrence Myers, Senior Agricultural Economist,
Division of Statistical and Historical Research

Address, 14th Annual Conference of executive officers, State directors,
State and local supervisors, and members of teacher training
staffs in vocational agricultural education for the
southern region, Tulsa, Okla., April 7, 1931

The purpose of the Agricultural Outlook is to furnish farmers the demand, supply, and price information they need in determining their production programs. At the outset then, let us see the type of farming problem that gives rise to the need for such information.

One of the oldest endeavors to improve agriculture is the work to increase physical productivity. The motto of this program is "to make two blades of grass grow where only one grew before." In carrying out this program studies have been made of soils and fertilizers, seed improvement and cultural practices for crops; and breeding, feeding and caring for livestock. Perhaps it will give us a better perspective to know that an agricultural historian of our Bureau, Everett E. Edwards, has traced the statement about the two blades of grass back to the 5th century, B. C. In recent years the continued agricultural depression has caused less emphasis to be given to this program as a means of helping agriculture. It must be admitted that increased physical productivity alone does not give a complete solution to our agricultural problem, but the increasing of our physical productivity is as important as ever. Nevertheless, we must recognize that efficiency in production needs to be measured in economic terms. The farmer learns from experience that it does not pay to obtain the highest possible yields per acre or to feed for the absolute maximum output per cow.

We should study carefully what the farmer refers to when he says that certain practices do not pay. Frequently he is referring to what is called the law of diminishing returns. Large increases in the quantities of fertilizer applied per acre of land give smaller and smaller additions to the yield for each additional quantity of fertilizer applied, and it is profitable to apply fertilizer only so long as the value of the increase in yield is greater than the cost of the fertilizers added.

The condition is similar with respect to feeding. Although the relationships between fertilizer applications and expected yields and between feeding rations and expected milk production may be the same from year to year, the most profitable rates of application in feeding will vary with prices. More fertilizer can be applied per acre with profit when cotton sells at 20 cents per pound than when it sells at 10 cents per pound. Many workers feel that farmers have a general tendency to apply too little fertilizer and would therefore not want to recommend that farmers reduce applications even when cotton prices are low. Even if we agree with this, it is clear that still greater efforts could be put forth to increase yields when prices are high. Low butterfat prices work toward reduced feeding, but it frequently happens, as it has in some sections in the present depression, that feed prices fall still further and that the net result is to make increased feeding profitable. Here again, there may be a general tendency toward under-feeding in some areas, but increased feeding or constant feeding can not be universally recommended. The most profitable rate of feeding will depend upon price relationships. This condition is so important that the ratio of feed prices to butter prices is a necessary element in forecasting butter production. Likewise the corn-hog ratio is important in forecasting the weight to which hogs will be fed, and incidentally, it is also important in forecasting the breeding of hogs. These influences of prices should be emphasized. Prices as well as physical relationships influence the relative profitableness of various production practices. In deciding upon the production practices to be followed in a given year, therefore, the farmer must make some decision as to prices.

Next let us glance at the problem of farm organization. In improving farm incomes the proper combination of enterprises is no less important than proper production practices for each individual farm enterprise. Many of our cash crops, like cotton, have high acre values, but they have high labor requirements at certain periods and if the acreage of these crops is large it becomes necessary to obtain additional help at the peak load periods when wages are high. If the farm is devoted mainly to these crops then the labor of the farmer himself and of his family may be only partially utilized for the rest of the season. By a different combination of enterprises there might be a profitable utilization of this labor and a reduction in the amount of labor that would have to be hired.

Other out-of-pocket expenses such as those for fertilizers also need to be considered. For such purposes it is well for the farmer to list his resources, (including the labor he has available) and calculate the probable effect on his income of following any one of several farming systems. Of course it is not to be expected that conditions will turn out exactly as calculated, but the making of the calculations necessitates precise thinking and brings to light many defects in farm organization that otherwise would probably be overlooked. Bulletin 395 of the Texas Agricultural Experiment Station shows the incomes that might be derived on 50-acre, 100-acre and 150-acre farms in the Black Waxy Belt from several different organizations. In these organizations cotton acreage varied all the way from 17 per cent to 100 per cent of the tillable acreage and the price of cotton was taken at 16 cents per pound. On the 100-acre farms with 90 acres in cultivation, 90 acres of cotton resulted in average farm receipts of $2,794.96 and supplied $139.14 worth of products for use in the home. Farm expenses averaged $1,434.94, leaving a net return of $1,499.16. When only 33 acres were planted to cotton and other enterprises were added such as 21½ acres of corn, 13½ acres of oats, 6 acres of cane hay, 16 acres of sudan pasture, 8 dairy cows, 1 sow, and when the poultry flock was increased from 30 to 275, the following results were calculated: Farm receipts were $2,660.64, a decrease of $134.32 from the organization having 90 acres of cotton. On the other hand, the farm furnished products valued at $274.64 for use in the home and farm expenses were reduced by $447.21 or to $987.73. The result was an increase in net income of $448.39 or, figuring another way, this second organization would give the farmer $312.89 more money and a better living.

Since these calculations are based on averages found in survey data they were carried out with a much greater refinement than necessary or even warranted in usual budget calculations. Morever, calculations assume that farmers can make the changes indicated and that the man who has been growing all cotton can do as well at dairying as the average dairyman of that section. In some cases these assumptions are not valid and in actual practice each farmer must make his decisions in light of the conditions of his particular farm. The point to be made, however, is that farm incomes and farm expenses are subject to considerable variation depending upon the farm organization adopted. With prices of products other than cotton at the level they were when the study was made, the authors of bulletin mentioned found that with cotton at 20 cents per pound the farm organization which had 36 per cent of crop land in cotton gave maximum returns, but when cotton was 16 cents per pound the organization with 25 per cent of the tillable land in cotton gave maximum returns, whereas, for 12 cent cotton maximum returns were indicated for farms with 17 per cent of the tillable land in cotton. Recalculating these results on the basis of recent prices as compared with those prevailing at the time the bulletin was written, we find that since prices of all products produced on these farms have declined the incomes were about as adversely affected for one organization as for another. The individual farm expenses, however, might have been very different and might well have justified a change in organization even though the price of all products declined.

Let us turn now to a Mississippi example. Bulletin 257 published by the Mississippi Agricultural Experiment Station gives similar analyses for "Systems of Farming in the Hill Sections of Mississippi". One type of farm considered in this bulletin contained 120 acres with 70 acres of crop land. The authors made their calculations on the basis of cotton being 17½ cents per pound. By cutting the cotton acreage from 29 to 15 acres and increasing the acreage in feed crops and the number of cattle, hogs, and poultry kept, the authors estimated that the total farm income could be increased from $1,142 to $1,776. The expenses would be increased $205 or to $912 by the reorganized plan as against $707 in the original plan. The reorganization, therefore, showed an increase of $429 in the net cash income.

Let us look further at this problem. Take the case of a man with one of these farms who is considering the cropping program for a particular year. No doubt, as the authors suggest, he will build his cropping system around cotton. This means he will plant as much cotton as he can well care for, but this is only a small quantity. Here lies another 15-acre field. If he plants that to cotton he will need additional help. He may let his land out on a half-share basis, he to furnish half the fertilizer. The authors believe

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that if 500 pounds of fertilizer is applied per acre, cotton should yield 250 pounds of lint. They also figure that soy-bean hay will yield 1.2 tons per acre. Soy beans ordinarily receive no fertilizer and a few additional acres could probably be handled with little or no additional cash outlay for labor. With fertilizers at $36 a ton, then, the owner would have a cash charge of $4.50 per acre for cotton. His half of the crop would amount to 125 pounds of lint per acre, and let us assume that the value of the seed would about offset the ginning costs. With cotton at 20 cents a pound, his share would be worth $25 per acre obtained at an additional cost of $4.50 per acre.

Under such conditions he would undoubtedly turn to cotton. But at 10 cents per pound his share would be worth only $12.50 per acre, or deducting the $4.50 for fertilizers, would give him only $8.00 per acre. At 8 cents for cotton there would be a difference of only $5.50 per acre if he puts this 15-acre field into cotton on the half-share basis. At such prices he might have obtained a larger net income for himself by putting the land into soy beans. This is not suggested as a complete analysis, but it probably goes far enough to demonstrate that price conclusions are indispensable in deciding farm organization problems. Again the word of caution may be needed, that these budget calculations are not infallible guides to the most profitable type of farming in a given area. They provide a farmer with a valuable check on his plans, but they are not a substitute for the farmer's judgment.

Farmers are constantly shifting their production programs in the light of price changes. In making these shifts they have used the best source of information they have had, namely the prices they have been receiving. This, however, assumes that prices of one year are a satisfactory index to what the farmer can expect from his crop the following year. Let us see to what extent prices one year can be depended upon as guides to prices the next year. Figure 1 shows that they were not at all reliable. Taking prices received in 1924 as 100, prices received in 1925 ranged all the way from 67 per cent for carrots and 69 per cent for corn to 299 per cent for potatoes. Not only are past prices the poorest sort of guides to future prices, but to follow them leads to maladjustments in production. Farmers are all acquainted with what has happened, and a goodly proportion of them increase their production of the crops that have been high priced, thereby tending to cause an over supply and low prices for these crops the following year. Even if the trend of prices could not be forecast correctly more than 50 per cent of the time, such forecasts would be better than past prices as a guide to production. As a matter of fact the Bureau's forecasts of price trends have been correct in about 85 to 95 per cent of the cases for each of the years for which they have been made.

Now let us see how a price outlook is determined. For this purpose we shall select the dairying from among the livestock enterprises and cotton from the annual crops. One of the first things you will want to know about the dairy situation is the trend of cow prices, for that has much to do with the time one would find it most easy to go into dairying, and will determine largely the risk one has of losing money from a decrease in inventory values. Figure 2 shows an index of January 1 prices of milk cows and other cattle from 1867 to 1931. You will note the pronounced cyclical movements in these prices. There is a tendency for them to rise sharply to high peaks, then for a sharp drop to be followed by a more gradual decline until the bottom of the

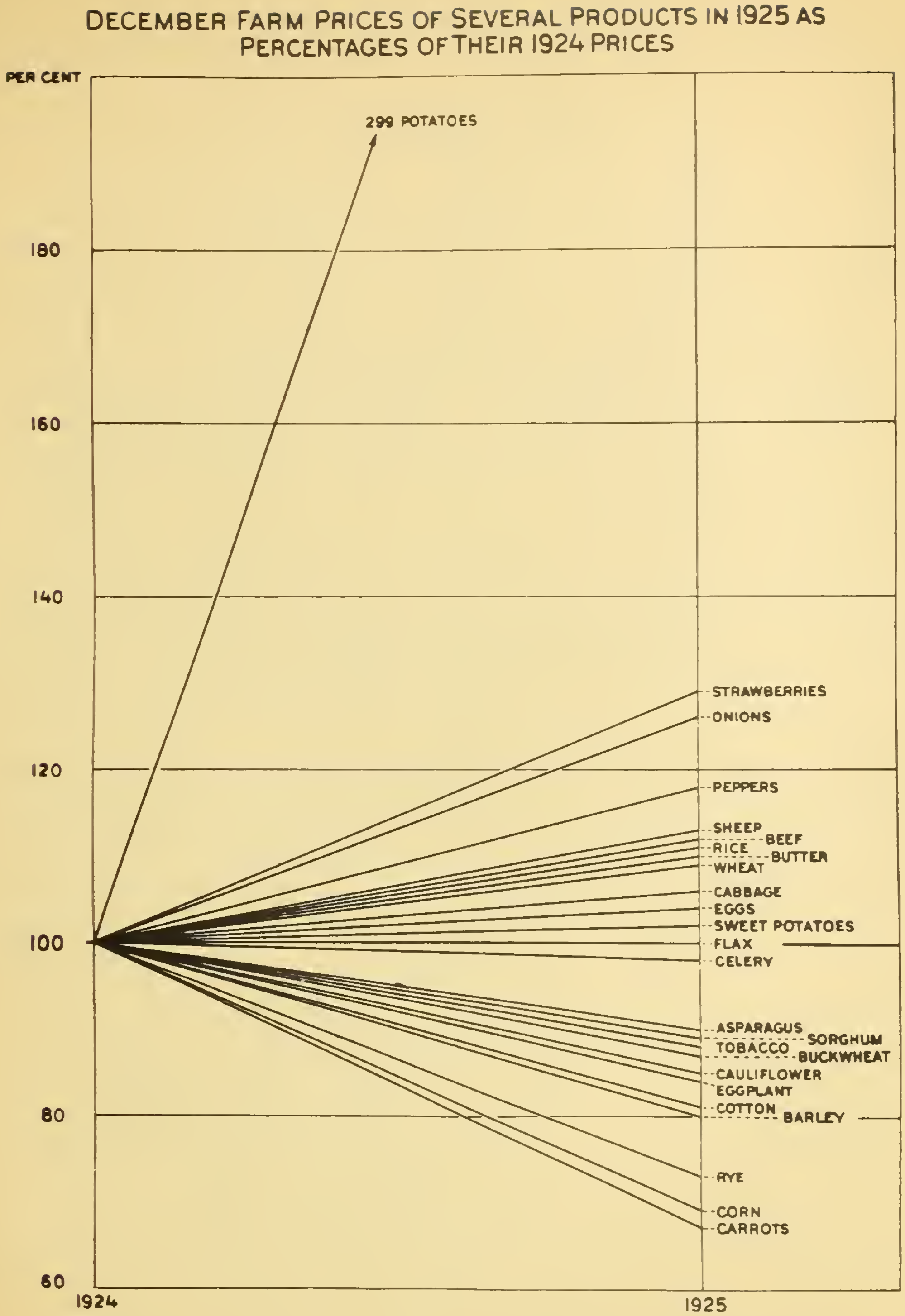

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FIGURE I - PRICES OF FARM PRODUCTS ONE YEAR DO NOT INDICATE WHAT THEY WILL BE THE FOLLOWING YEAR

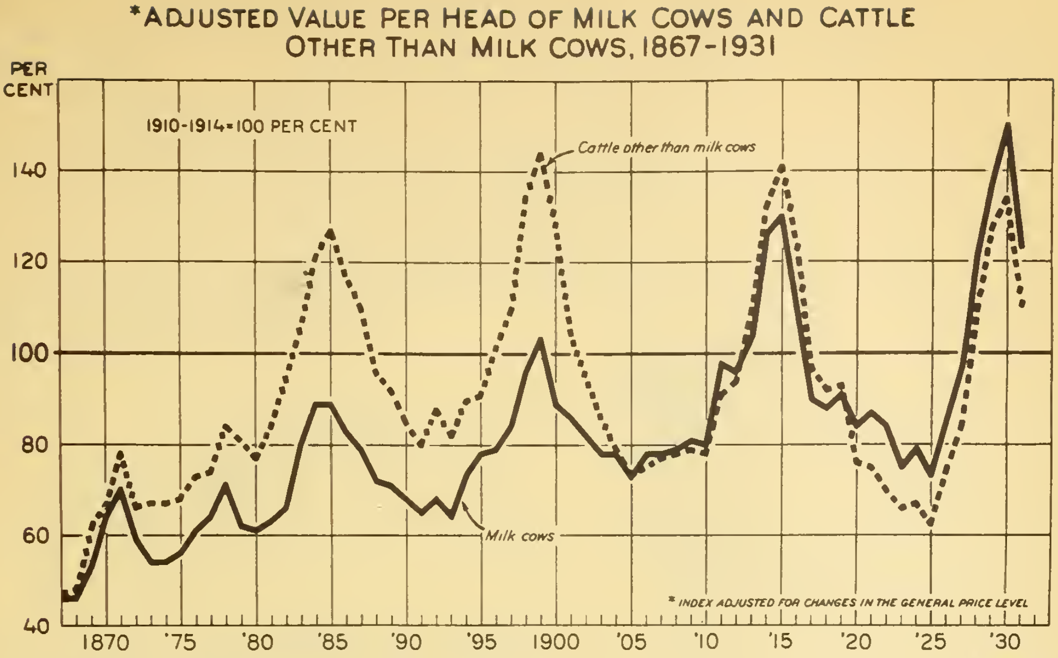
*ADJUSTED VALUE PER HEAD OF MILK COWS AND CATTLE OTHER THAN MILK COWS, 1867-1931

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Figure 2 - Prices of milk cows and other cattle have pronounced cycles that stand out clearly when the actual prices are adjusted to eliminate the effects of changes in the general price level. These adjusted prices have peaks about 14 to 16 years apart. The last January 1 peak came in 1930. Despite sharp declines in 1930, cattle prices on January 1, 1931 were still comparatively high

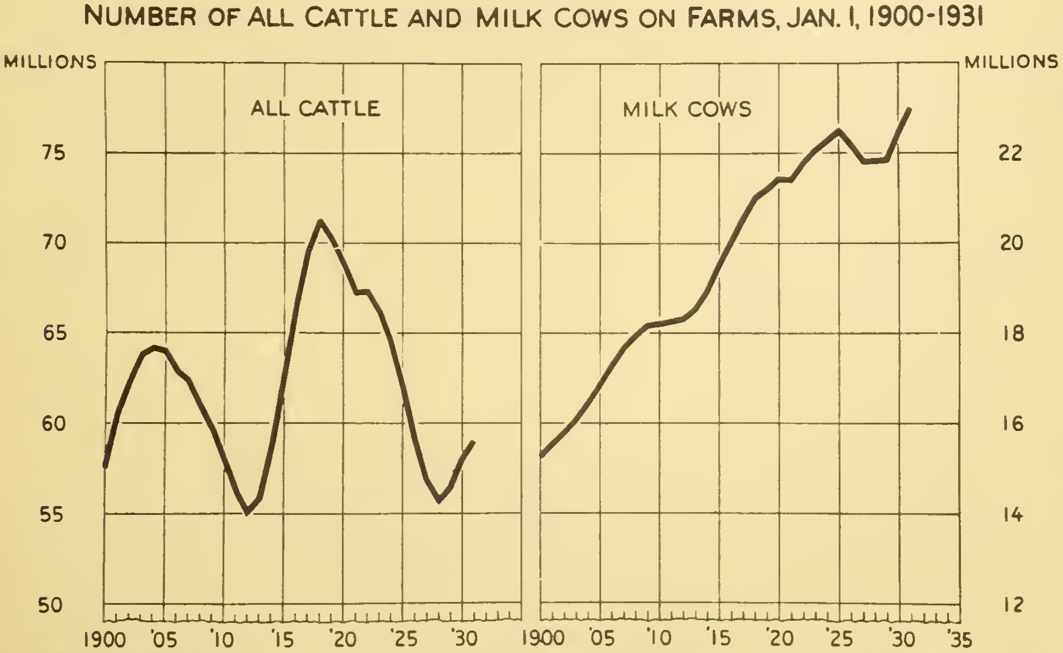
NUMBER OF ALL CATTLE AND MILK COWS ON FARMS, JAN. 1, 1900-1931

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Figure 3 - The estimated numbers of milk cows on farms have had a marked upward trend since 1900. Total cattle numbers have marked cyclical movements, the peak in numbers frequently preceding the low point in prices, and the low point in numbers preceding the high point in prices. The upward phase of the present cycle in cattle numbers started in 1929. In the last cycle numbers increased for six years

* PRICE OF 92-SCORE BUTTER AT NEW YORK AND INDEX OF PAYROLLS, 1919-1931

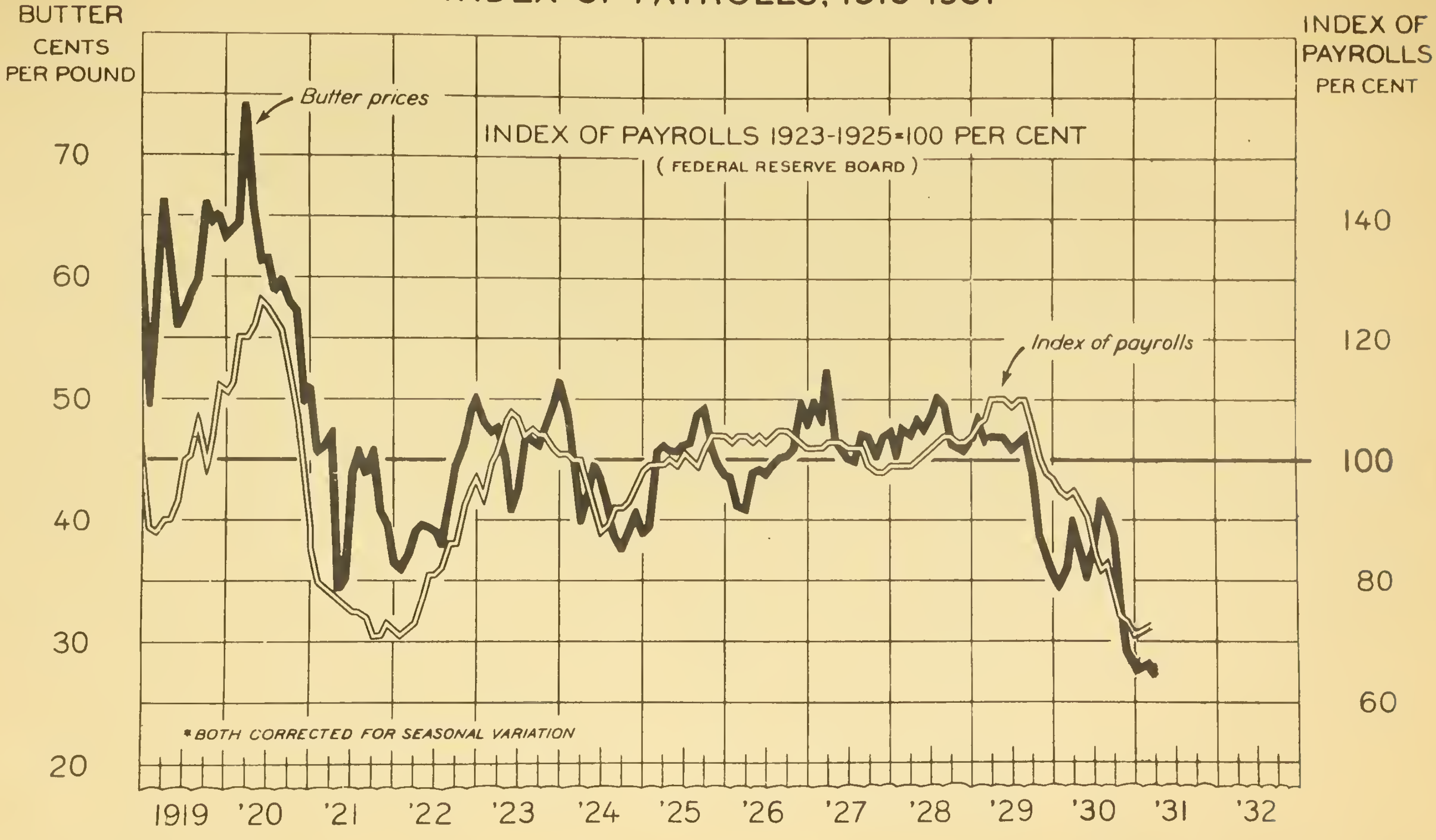

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FIGURE 4 - THE DECLINE IN CONSUMER INCOMES, AS REFLECTED BY A DECLINE IN PAYROLLS, WAS LARGELY RESPONSIBLE FOR THE DECLINE IN BUTTER PRICES IN 1930. WHEN PAYROLLS INCREASE FOLLOWING THE PRESENT DEPRESSION THIS SHOULD STRENGTHEN THE BUTTER MARKET

cycle is reached. We have just passed through one of the peak periods. Obviously dairying is at a severe disadvantage when it is promoted at peak prices; yet it is in periods of peak prices that many people urge farmers to buy cows and start dairying. The chances of success and permanence should be much greater in areas where the industry can be established at moderate prices and with a small investment. Figure 3 shows the cycles in cattle numbers which underlie the cycles in prices. We have just passed a low point in cattle numbers. Numbers of milk cows have been increasing generally over a period of years. After a slight hesitation they have started upward again. There is little doubt that there will be a large number of milk cows available in most sections in the next few years, and there will be increasing numbers of beef and dual-purpose cows that can be milked if butter prices are favorable. Of course, feed prices need to be considered in the outlook for dairying. Here we shall merely note that there is reason to believe that feeds will continue relatively cheap in the feed-producing regions. The outlook, then, is for ample supplies of dairy products, particularly when price relationships warrant heavy feeding.

Demand also influences butter prices. When business is depressed, pay rolls fall and consumers spend less for butter. Figure 4 shows the extent to which present low butter prices can be attributed to the reduction in pay rolls. When you see a business depression gathering force then it is reasonable to anticipate that butter prices will fall. Some farmers may find it to their advantage to increase production at such times, whereas others will need to curtail. The outlook, however, should inform them of what to expect. Looking at the problem from our present situation, we are interested in determining when the depression will be over, for when pay rolls are substantially increased the demand for butter can be expected to rise materially. The improvement in demand that would come from a period of prosperity could more than offset the increase in supplies that can be expected for the next few years.

Cotton illustrates the problems encountered in dealing with the outlook for an annual crop. Production changes greatly from year to year and this has led some people to the conclusion that it is impossible to look very far into the future of the cotton situation. Forecasting yields appear to be one of the most difficult problems. However, the danger of severe weevil damage is indicated to a considerable extent by the number of weevils entering hibernation. Last year many weevils were present in the eastern part of the Belt, but the drought kept weevils rather well in check in the Central States. Extremely low temperatures can kill off a large proportion of the weevils in hibernation. This year the winter has been mild. The amounts of rainfall in the autumn and winter months influence soil moisture and indicate the probability of droughts in the West. The price of cotton determines to a large extent the amount of money farmers can spend for fertilizers and the care which they are likely to give the coming crop.

While not overlooking the importance of conditions through the growing season, it is well to emphasize that it is not necessary to wait until fall to form some ideas about the probable yield per acre. The acreage planted to cotton reflects in large part the price of cotton and other conditions prior to planting time. Figure 5 shows cotton acreage changes for a number of years and the extent to which they can be explained by conditions prior to planting time. Recently a great deal of attention has been paid to competition from foreign cotton-producing countries. Figure 6 shows that foreign production moves fairly closely with American production. The explanation is that cotton production in foreign countries responds to prices, as it does in the United States. It is interesting to take note the production situation in the present year. Last fall we expected that the low prices would reduce some of the foreign crops, but the reports we received did not show this. As the season has progressed, however, the estimates of several foreign crops have been reduced and recently it became necessary to lower our 1930-31 estimate of world cotton production.

The demand for cotton varies with business conditions. As the volume of industrial production declined, cotton consumption fell. Figure 7 shows that cotton consumption seems to fall more sharply and to rise more rapidly than the average of all industrial production. If we are to forecast cotton consumption accurately then we must be able to anticipate changes in business conditions. It is quite clear that cotton consumption can hardly rise to high levels while business generally is depressed nor is it likely to fall very far at times when business generally is prosperous. More than half our cotton crop is exported so it is necessary to get the facts on the foreign demand situation. Exports of cotton piece goods from Great Britain give an important indication of world demand conditions. Figure 8 shows that the present world-wide depression has reduced British exports of cotton piece goods to about the same level they were in the depression of 1920-21.

Our next problem is to determine the extent to which cotton prices are influenced by supply and demand conditions. By plotting prices against supplies as was done in Figure 9 we see that for several years there was a fairly consistent relationship between the supply and price of American cotton. The year 1920-21 was one of extreme world-wide depression and the price of cotton was far below what it would ordinarily have been for the supply then in existence. As conditions improved the demand rose. As the present depression was getting under way prices fell more than the supply alone would have warranted. You have observed how the present depression compares with that of 1920-21. With this in mind let us look at Figure 9 more closely. The world supply of American cotton for the present season is about 20,500,000 bales and prices have been not far from 10 cents per pound. The figure shows that this gives us a level of demand for American cotton approximately the same as that prevailing in the 1920-21 season. Of course, the world is using more cotton than it did ten years ago, but offsetting the increase in demand there has been an increase in foreign production.

Since the depression is so important a factor in the present economic situation the question arises: Can we anticipate business developments? Figure 10 shows the similarity of this and other major depressions. Although the unexpected can always happen and in fact must be looked for, the present business depression has developed very much as the other major depressions have in the past 40 years. By keeping a close watch on foreign as well as domestic developments in the business situation we should be able to form an opinion as to the recovery from the present depression.

Problems involving long-time investments should be considered in light of the probable long-time trend of commodity prices generally. With each of our major wars we have had high price levels. (See fig. 11) Following them,

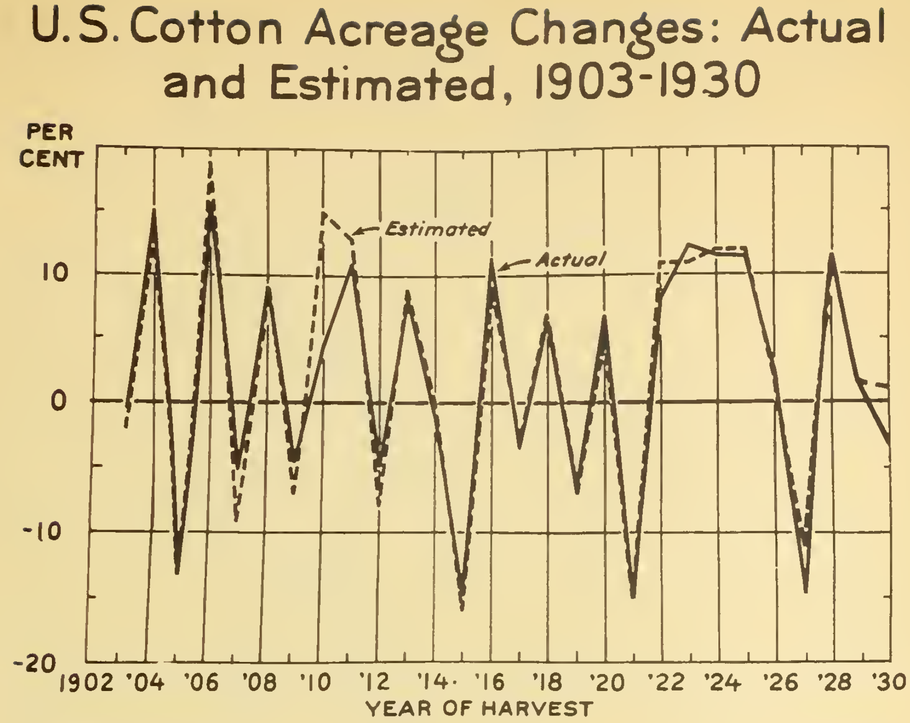
U.S. Cotton Acreage Changes: Actual and Estimated, 1903-1930

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Figure 5 - Cotton acreage in the United States changes violently from year to year. Extreme reductions have been followed by large increases the yext year. A large part of the changes can be forecast from past prices and changes

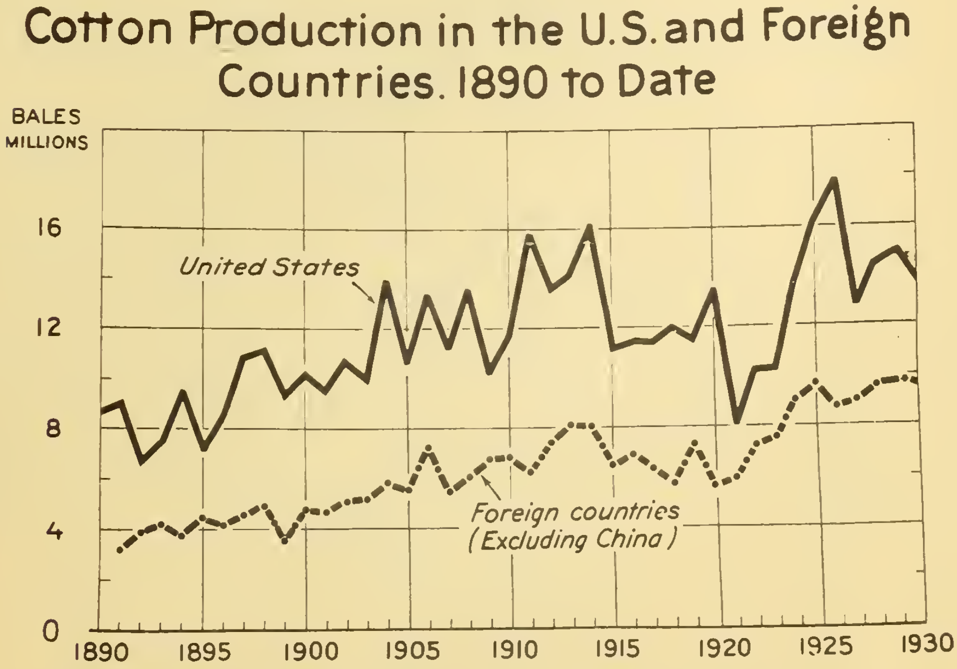
Cotton Production in the U.S. and Foreign Countries. 1890 to Date

Figure 6 - The United States produces most of the world's cotton and the variations in production have a dominating influence upon world cotton markets. But production in foreign countries has been gaining. Forty years ago the crop of the United States was twice that of foreign countries outside of China. Now it is only about 50 per cent greater than the production of those countries. To an extent cotton production in foreign countries responds to prices as it does in the United States

Cotton Consumption and Industrial Production in the U.S., 1919-1931

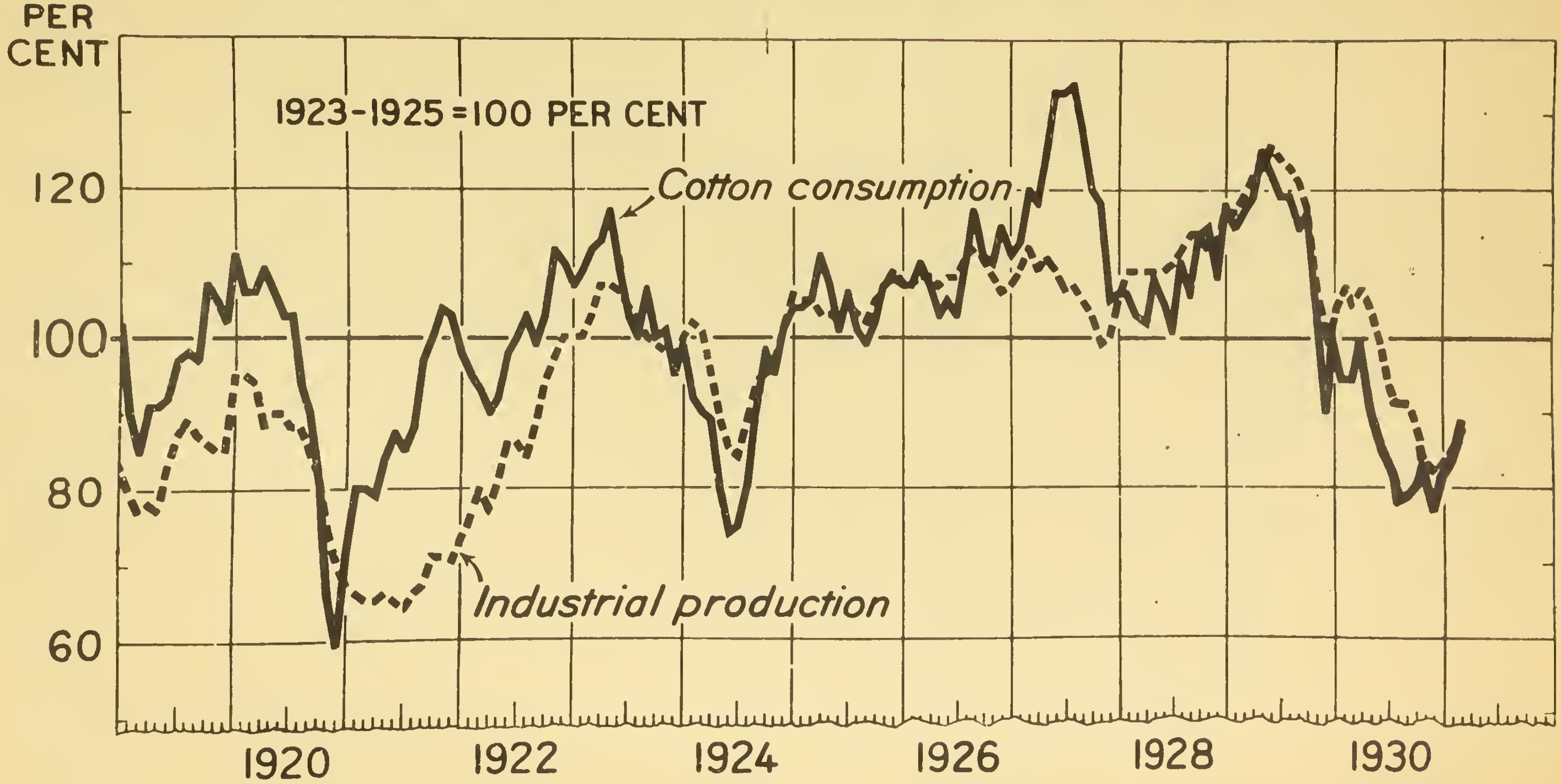

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FIGURE 7 - COTTON CONSUMPTION IN THE UNITED STATES MOVES WITH GENERAL INDUSTRIAL PRODUCTION. BOTH DECLINE IN PERIODS OF BUSINESS DEPRESSION, BUT COTTON MILL ACTIVITY USUALLY DECLINES FASTER AND FARTHER THAN THE AVERAGE OF ALL INDUSTRIES; AND WHEN RECOVERY BEGINS, COTTON CONSUMPTION USUALLY INCREASES MORE RAPIDLY THAN INDUSTRIAL PRODUCTION

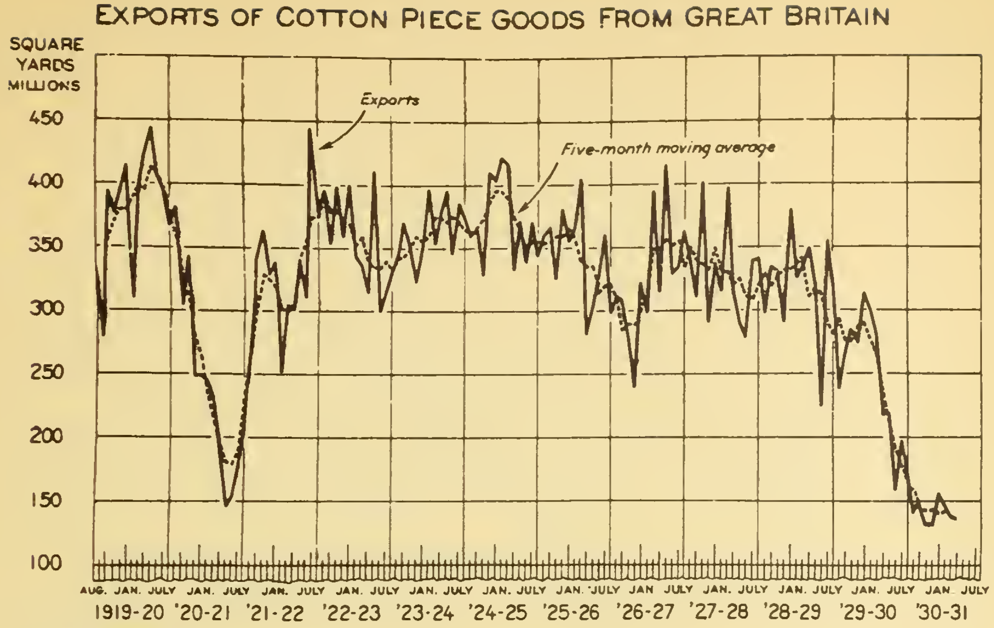

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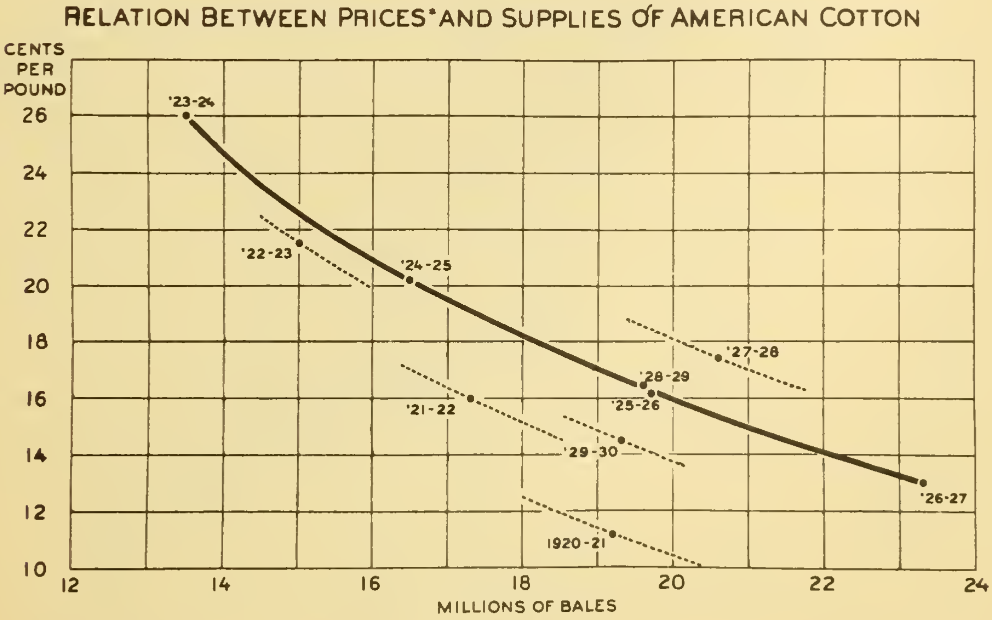
Figure 8 - British exports of cotton piece goods in September 1930 were lower than at any time in the 1921 depression. Great Britain has gradually lost some of its export trade, but sharp declines as occurred in 1920-21 and 1929-30 reflect world demand conditions



* PRICES DEFLATED TO AUGUST 1930 PRICE LEVEL

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Figure 9 - By itself, an increase of one million bales in the supply of American cotton lowers the price a little over one cent per pound. After eliminating changes due to general price levels, comparisons between supplies and average prices show the effects of changes in demand. From 1920-21 to 1923-24 demand improved materially and this, as well as the lower supplies, raised prices. In 1927-28 demand was especially strong, but in the last two years depressions have lowered demand

TRENDS IN INDUSTRIAL ACTIVITY IN THE UNITED STATES FOLLOWING THE PEAKS OF 1893, 1907, 1920, AND 1929

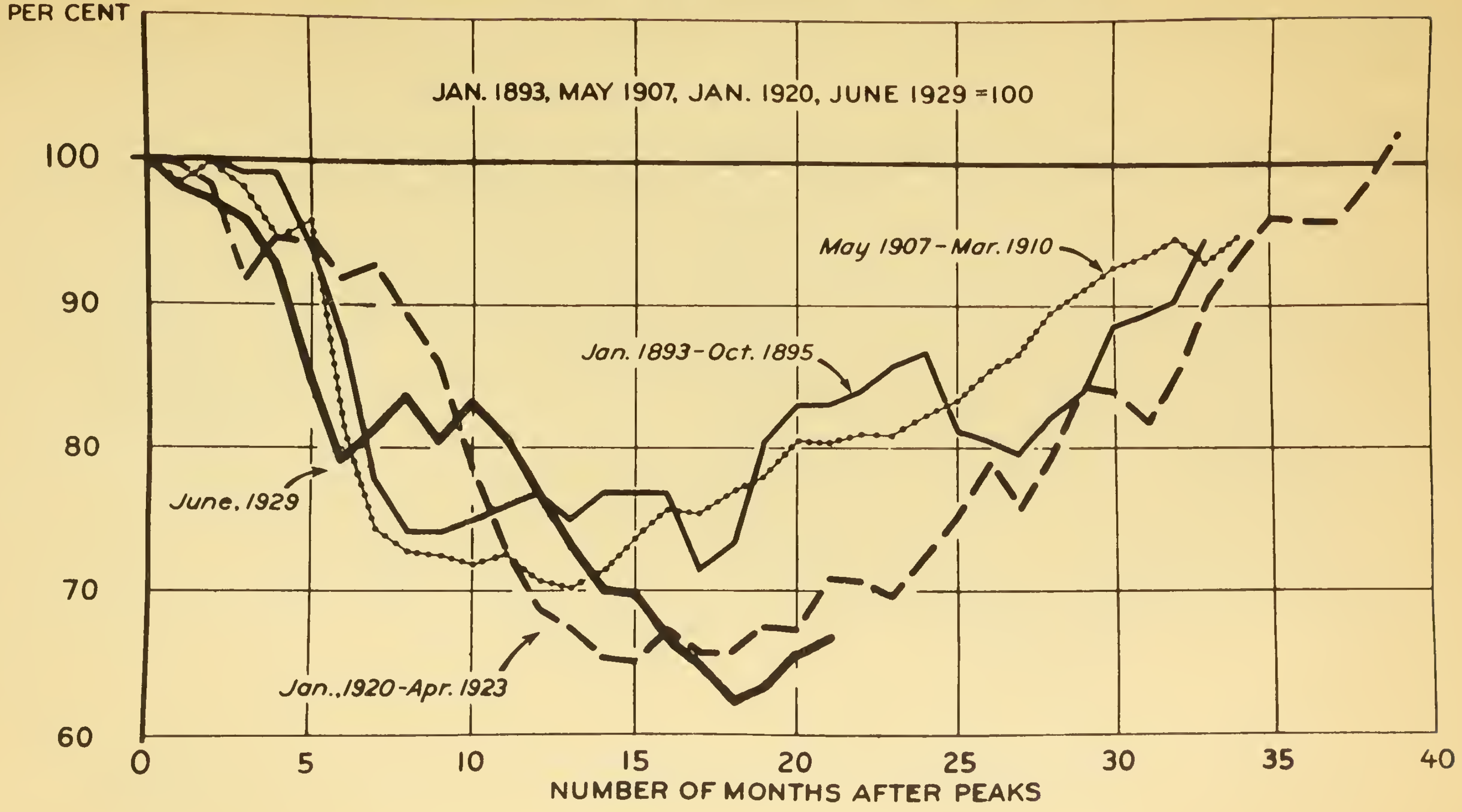

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FIGURE 10 - THE LEVEL OF INDUSTRIAL ACTIVITY, AS REPRESENTED BY THE FEDERAL RESERVE BOARD INDEX OF MANUFACTURES AND MINERAL PRODUCTION, STOPPED DECLINING IN DECEMBER 1930, 18 MONTHS AFTER THE PEAK OF JUNE 1929. FOR MARCH 1931 THE INDEX SHOWS A RECOVERY TO 66.6 PER CENT OF THE PEAK COMPARED WITH 62.5 PER CENT IN DECEMBER 1930. A SIMILAR RECOVERY TOOK PLACE BETWEEN JUNE AND AUGUST OF 1921 (THE 18TH AND 20TH MONTHS AFTER THE PEAK OF JANUARY 1920). THE DECLINE IN THIS MAJOR DEPRESSION HAS BEEN GREATER THAN IN THE EARLIER ONES OF 1893, 1907, AND 1920

COTTON PRICE PER POUND, 1790-1930

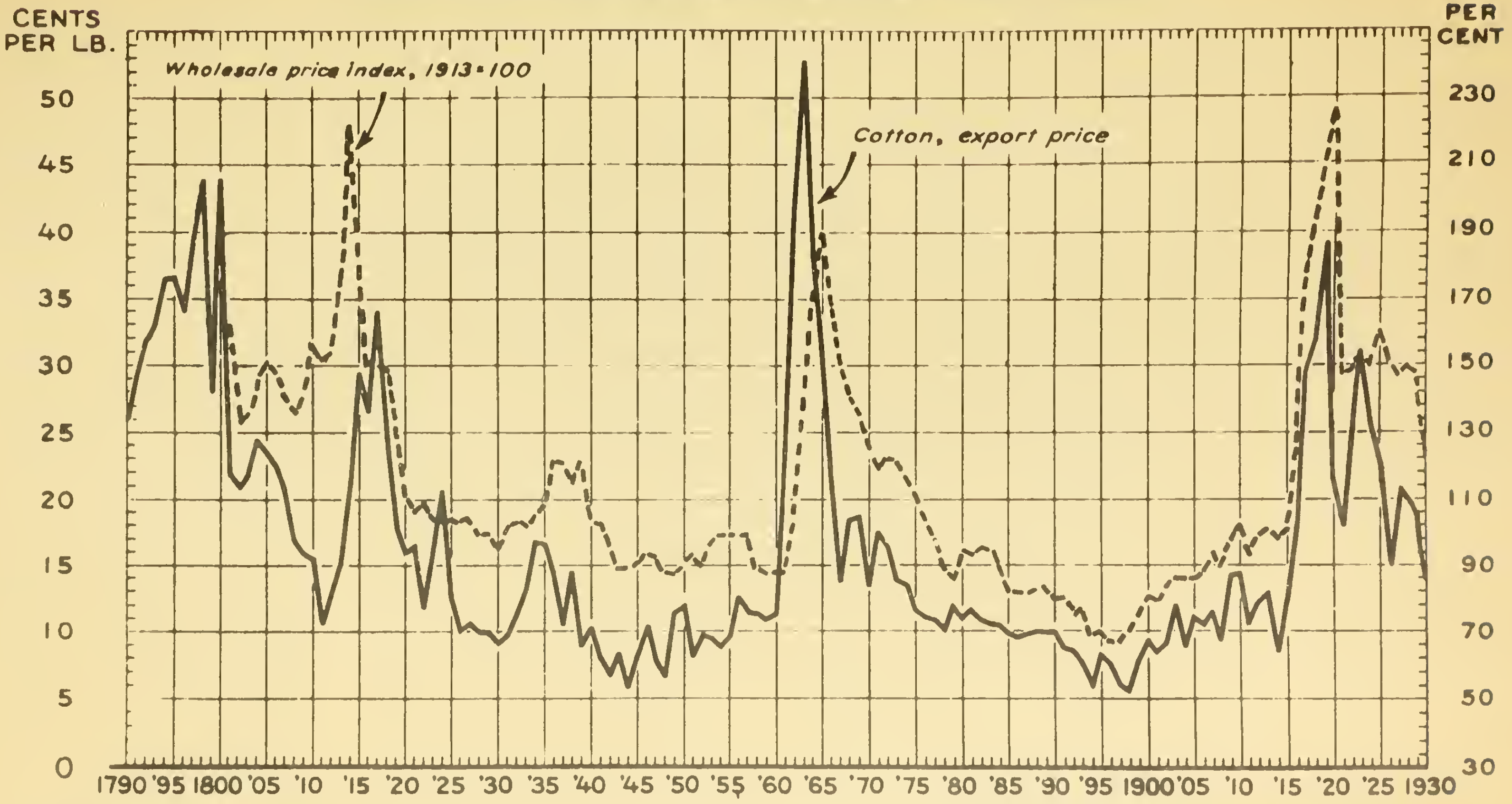

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FIGURE 11 - COTTON PRICES HAVE LONG-TIME TRENDS LASTING OVER PERIODS OF YEARS. THESE TRENDS ARE ASSOCIATED WITH SIMILAR LONG-TIME CHANGES IN GENERAL COMMODITY PRICE LEVELS. FOLLOWING THE WAR OF 1812 PRICE LEVELS FELL SHARPLY AT FIRST, THEN MORE GRADUALLY. FOLLOWING THE HIGH POINT OF THE CIVIL WAR PRICE LEVELS FELL SHARPLY UNTIL 1879, THEN GRADUALLY UNTIL 1897 WHEN AN UPWARD TREND STARTED. FOLLOWING THE WORLD WAR PRICE LEVELS DROPPED PRECIPITOUSLY, THEN ROSE AGAIN UNTIL 1925, BUT HAVE BEEN DECLINING SINCE

prices have dropped sharply for a time, and have then dropped gradually for a series of years. For several years following the 1920 deflation it was thought that the price level might be stabilized around 150 per cent of the 1913 level. With the present depression, however, prices have fallen until the general index is less than 20 per cent above the 1913 level. Of course the price level will rise somewhat when business improves, but it seems doubtful that it will go back to the levels of 1925 or 1926. When the price level is falling, land prices are likely to be pulled downward and people who make long-term commitments are likely to have more difficulty in paying their debts than they anticipate.

Many additional facts are necessary in arriving at the outlook, and the essence of the outlook is the interpretation of the facts. In making interpretations, statistical analyses are relied upon as much as possible. In some cases, however, we do not have comprehensive analyses and must rely largely upon general economic principles and a general understanding of the problems. In all cases judgment must play an important part in the interpretations. However, we have probably gone far enough in discussing the outlook itself to show that it is based on organized facts. Perhaps we have not gone far enough, though, in emphasizing that many of our judgments of the future must of necessity be tentative. We can be certain of eventual recovery from the existing depression, but we need to know when and how rapidly it will come and whether it will influence prices this fall. Developments in the next few weeks may cause us to reverse the opinions we held last fall as to this year's yields. It is important that farmers realize the uncertainties as well as the certainties in the outlook for the farmer must take the responsibility of deciding what he is to do.

In addition to the annual agricultural outlook the Bureau of Agricultural Economics publishes a number of special outlook statements throughout the year. Close to planting time representative farmers report their intentions to plant each of the major crops except cotton. These intentions-to-plant reports are interpreted in light of the outlook to see whether farmers are apparently overplanting or underplanting any of the crops. This information is made available so that farmers will have a still further opportunity to adjust their production programs to probable demand conditions. Reports are also received on intentions to breed hogs and on spring and fall farrowings and these reports are interpreted, and statements are released on them, similar to those of the intentions to plant reports. Then too, there is the midsummer cattle report and the summer report on the sheep and lamb situation.

During the last two years there has been a new development in outlook reports. In the fall of 1929 three Bureau workers went from Washington to Athens, Georgia, in response to a request for an outlook that would be early enough to serve the needs of the South. Representatives came from Florida and South Carolina, and a large proportion of the members of the Georgia Agricultural College took part in this meeting. Statements were prepared and carbon copies made for distribution to those interested. The seed planted at that time provided a real harvest in the fall of 1930 when a large number of Bureau workers and representatives from 11 Southern States met at Atlanta and prepared the 1930-31 outlook for the Southern States. The procedure in preparing this outlook was essentially identical with that used in preparing the annual outlook for the whole country except that the Southern outlook was confined to the crops and problems of the South and that at this meeting there was a much larger representation of State workers including production specialists as well as economists and extension workers. Regional outlook statements were also prepared last year for other regions, although the one for the South was the most comprehensive. The advantages of the larger attendance of State workers and the greater emphasis which can be given to local problems and interpretations in such regional work are obvious.

Many practices are followed in getting the outlook to farmers. Even poster campaigns have been suggested. No best way of presenting it has yet been devised and perhaps there is no one best way. Nevertheless, the important aspect about the presenting of the outlook is perfectly clear. It is an educational program. Therefore, the professional educator can speak more authoritatively on the subject of presenting the outlook than the professional outlooker can speak.

Some observations, however, may be pertinent. The agricultural outlook is a body of organized and interpreted facts for the farmer's use; it is not a mandate. In presenting it efforts should be centered upon getting farmers to understand the situations and their significance. The nature of the outlook precludes being too dogmatic about it and emotionalism will switch the outlook train onto the wrong track. Dishonest presentations of situations to attain some end that the outlooker may think good for the farmer would soon discredit the whole effort. In bringing farmers to use the outlook effectively there seems no shorter way to success than through a sound long-time educational program. The outlook does not present a rule-of-thumb to teach. The facts of the outlook are continually changing and these changes merit the farmer's consideration from the standpoint of his production program. The continuous elements in outlook work are economic principles and the practice of analyzing economic situations. This presents a teaching problem somewhat similar to that found in teaching the judging of livestock. When you describe the conformation desirable in a dairy cow and give practice in recognizing this conformation you are following a method similar to that in teaching the supply and demand conditions that influence prices of a particular product and in giving practice in analyzing particular price situations so that the student becomes able to differentiate between favorable and unfavorable price prospects.

Accomplishments are likely to be slow in teaching the outlook just as they have been in teaching reading or in improving production. If one is to judge the effectiveness of outlook work by the acreage reductions that follow it one will probably be disappointed, but such criterion of effectiveness is unwarranted. There is a wide difference in the situation of the farmer who produces cotton realizing, from planting time or before, that the price will probably not be over 10 cents per pound when he sells it, and that of the farmer who produces on the assumption that the price will be 15 or 20 cents per pound only to find in the fall that he can get but 10 cents for it.

Many of the most important adjustments from the standpoint of the individual farmer are those affecting costs or long-time programs. These may show up only slightly, and in some cases not at all, in the acreage in any particular year. As farmers learn more about the outlook reports it is reasonable to suppose they will follow them more closely. This should help to eliminate unwarranted variations in production and should hasten necessary agricultural changes. Considerable headway should be made in keeping a better balance within agriculture and such work may be of some influence in improving the balance between agriculture and industry.

Vocational agricultural teachers appear to be in a position to help most effectively in outlook educational work. Outlook material is largely factual and must be applied to specific problems. When adult farmers are considering problems of production for a particular crop or for a given type of livestock they are almost certain to be interested in determining the extent to which they may find it advisable to produce the commodity in a certain year. Since these classes continue over a considerable period, changes in the outlook can be observed as they arise. Presumably the annual outlook report will deserve the greatest consideration of any of the outlook materials, but shortly thereafter come the intentions-to-plant reports and intentions-to-breed reports. These may change or modify conclusions as to the outlook. Teaching farmers to keep abreast of these developments and giving them the practice in analyzing such situations would seem to be most important aims of a program of education for the use of the outlook. Students sometimes feel that the subject of economics is abstract, but when they have an investment at stake, as vocational students are likely to have, they will be interested in considering whether prices will probably go higher or lower.

Perhaps best suggestions for specific ways of using the outlook report in agricultural classes are those contained in the report called "The Agricultural Outlook for 1931, Agricultural Subject Matter No. 11" prepared by a Federal Board for Vocational Education. You are better able than we are to formulate outlook educational programs and to determine the teaching methods to be used in the work. This paper is limited to indicating clearly what the outlook is, the importance of some of the specific farm problems that can be answered only in light of the outlook, and indicating that a sound and continuous educational program is necessary if outlook work is to be of maximum benefit to farmers.

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